

REMARKS

Consideration of the present application in view of the above amendments and the following election and remarks is respectfully requested.

Claims 1, 2, 6-9 and 14-34 are pending. Claim 17 has been amended. Support for the amendments may be found in the paragraph bridging pages 10 and 11 of the present application. No new matter has been added.

In response to the Restriction Requirement, Applicants elect with traversal Group I, claims 1, 2, 14-27, 33 and 34 drawn to a family A DNA polymerase and a kit comprising a family A DNA polymerase.

Applicants disagree with the assertion in the Restriction Requirement that there is no specific technical feature that links the three groups of invention listed on page 2 of the Restriction Requirement. Applicants submit that the family A DNA polymerase as claimed in claim 1 is novel and not obvious and thus may function as the specific technical feature that links the three groups of invention. More specifically, Minnick *et al.* (*Journal of Biological Chemistry* 274(5): 3067-3075, 1999) does not teach or suggest a family A DNA polymerase which has a modified motif C sequence and an enhanced mismatch discrimination as compared to the corresponding wild type polymerase, or a Klenow fragment thereof, wherein in the motif C sequence QVH in positions 879-881, based on the *E. coli* DNA polymerase Klenow fragment shown in SEQ ID NO:2, at least the amino acid residue Q879 has been replaced by a lipophilic amino acid residue. Although this reference discloses a His to Ala substitution at position 881, it fails to disclose any substitution of the amino acid residue Q879. In addition, the present application provides that “[a]s compared to the mutant QVA known from the literature (Minnick, T. et al., *J. Biol. Chem.* 274, 3067-3075 (1999)), the polymerase mutants according to the invention have an increased selectivity of primer extension (Example 7, Figure 5). As shown in Figure 5, the QVA mutant has an essentially higher tendency to extend mismatches as compared to the LVL mutant according to the invention.”

Applicants further note that because the restriction between Groups I and III is between a product and a method of using the product, according to MPEP § 821.04, the claims of Group III (*i.e.*, Claims 28-32) should be rejoined in the present application when the claims

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Response to Restriction Requirement

of Group I become allowable even if the Restriction Requirement is made final in the next Office Action.

In response to the species election requirement, Applicants elect with traversal a polymerase from *Thermus aquaticus* as the specific polymerase to facilitate initial prior art search and examination. Applicants submit that there would not be an undue examination and search burden without the species election requirement. A search for mutations at the amino acid residue Q879 of a family A DNA polymerase should uncover relevant prior art references regardless from which organism the family A DNA polymerase is obtained.

Applicants submit that the following claims encompass the elected invention and species: claims 1, 2, 14-27, 33 and 34.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
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